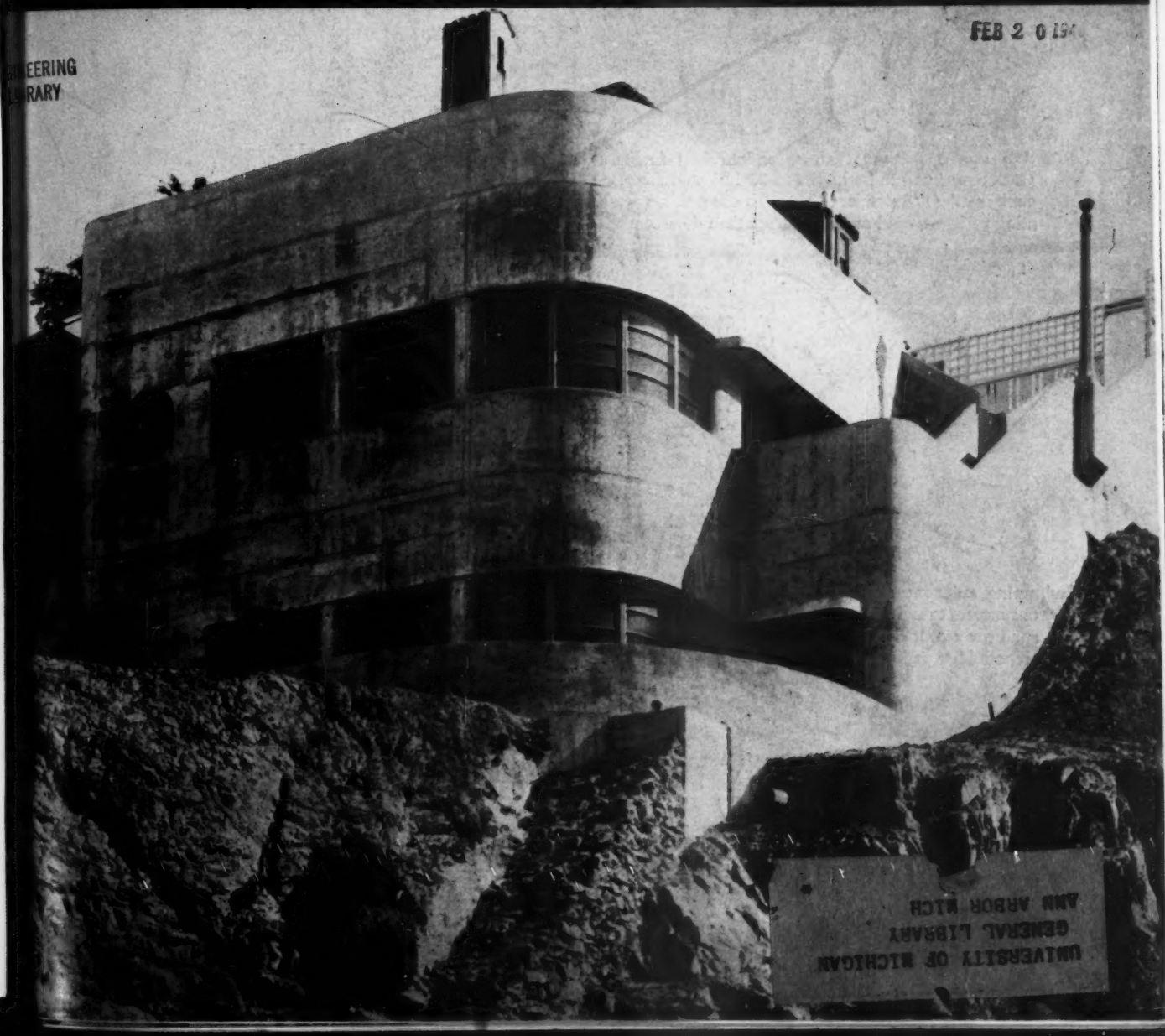
ENGINEERING NEWS-RECORD

Seacoast sewage pumping plant aids San Francisco Bay pollution control



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No-We Didn't Put Sun Helmets and Swim Suits on our Motors-but....

"Double Trouble", moaned the experts, but the Navy stood fast. "All we want", said they, "are starting motors for diesel engines that'll stand up in tropic heat. Make them waterproof too!"

Blood pressures went up, when we ran into short-circuits. Horsepower had to be high (14-22 hp) and frames extra small (1/5 standard size). To offset this, operating periods would never last more than 45 seconds.

Well, we sweated out the high temperature problem — finally licked it with a new method of induction brazing of armature coils. Result: our coil could withstand high temperatures under all operating conditions.

Swimming suits required! Next, we had to waterproof our motors to make them swimmers. So we slipped a spun cover over each unit and sealed it against a neoprene rubber gasket. They shed water like a duck!

"On the beam" was the way those diesel engineers put it when they saw the finished product. And you should have seen the way they beamed after they made their tests. We lost a few buttons off our vests too!

There's a Moral: Every time Allis-Chalmers engineering solves *special* motor problems, we discover new ways to build better standard motors for you. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

A 1928

Wait 'til you see the NEW

ALLIS-CHALMERS MOTORS!

HEAR THE BOSTON SYMPHONY: *Every Saturday Evening, American Broadcasting* **Co.**

News of the Week

ENGINEERING NEWS-RECORD • FEBRUARY 14, 1946 • VOLUME 136 • NUMBER 7

OPA grants price increases for many building materials

Rise in almost all cases will be passed along to consumer, resulting in higher building costs—Steel rise promised will increase costs further—Other increases expected

During recent weeks the Office of Price Administration has granted an increase in the price of a large number of building materials. Although the adjustment for any one material has not been high, the total effect is expected to result in a noticeable increase in the cost of construction. (For a Department of Commerce estimate of the expected increase see p. 15.)

Many of increases not new

The OPA action of the past few weeks is not a new program. During the war numerous adjustments were made to relieve hardships and to increase the production of critical material.

A number of adjustments were made in September (*ENR* Sept. 27, 1945, vol. p. 399). For example, a Sept. 18 price increase of $2 per 1,000 brick was allowed on common brick manufactured east of the Rockies. Other price increases at that time included: An increase of $1.20 per ton in the northeastern section of the U. S. for building lime; an upward adjustment on the eastern seaboard of $4.25 per 1,000 sq. ft. in manufacturers' ceiling prices for gypsum lath and gypsum liner board; a price rise of 4 percent of $3.00 per net ton for cast iron soil pipe and fittings; and an adjustment of $2.40 per net ton in manufacturers' prices for calcined gypsum plaster "bag goods." Almost all of these adjustments were passed along to the consumer.

Numerous increases since September

Several major upward revisions have been granted since September. Some of these have been made to permit a fair profit by manufacturers and distributors. Through this action it has been possible to break bottlenecks in the delivery of supplies greatly needed for housing and other construction programs. Other increases have been made to permit a manufacturer to resume production of a material not produced during the war.

The price increases granted since the middle of September for building materials other than lumber are shown in Table I (*shown on p. 6*). Most of these increases have been reported previously in *Engineering News Record.*

In evaluating the data in Table I, it should be noted that all of the increases listed will be passed along to the consumer with one exception. This exception is the 11.4 percent adjustment for Douglas fir open window sash, which has been absorbed by the dealers.

A number of adjustments pertaining to lumber have also been permitted since the middle of September. The major adjustments pertaining to lumber are shown in Table II on p. 16. In contrast to most of the changes in Table I, greater portion of those in Table II will be borne by other than the consumer.

Exceptions are: The 7 percent increase for yellow cypress; the adjustment for western pine; the increase for eastern poles and piling; the change for walnut lumber; that for western red cedar poles and piling, and the adjustment for white cedar poles.

Other increases expected

From the foregoing statements, it should not be understood that OPA is granting all of the price increases requested. Much the reverse is true, as about 30 to 40 percent have been turned down. However, other increases may be expected.

The most outstanding is that pertaining to steel. This increase is expected to be appreciable and will be an important consideration in settling the steel strike. Unfortunately, it will result in the requests for many other upward adjustments where the manufacturer uses large supplies of steel.

All district and regional offices of the OPA can supply additional information on the increases listed. If these offices are unable to provide all the aid desired, the Building Materials and Construction Price Branch, Office of Price Administration, 2nd and D St., SW, Washington, 25, D. C., should be contacted.

(*see pages 6 and 16 for tables*)

Canada re-imposes control over steel

Canada last week reinstituted its control over steel supplies, with M. A. Huie recalled from civilian work to act as steel controller.

Following consultation between Mr. Howe and the management committee of Canadian Construction Association a few weeks ago, Mr. Howe said that the immediate task of the committee will be investigation of the shortage of construction materials, with the definite help of suggestions to improve the supply situation.

Heading the committee is R. Drummond of Toronto, vice-president of the C.C.A.; with R. G. Johnson, associate general manager of the C.C.A. acting as secretary. Other members are: P. N. Gross of Montreal, R. A. Sessons of Ottawa, Lorne Bain of Montreal, J. M. Piggott of Hamilton, and J. B. Stirling of Montreal.

Announcing the return to controls over steel, Reconstruction Minister Howe said that critical dependence of the Canadian construction industry and many other branches of Canadian industry generally, upon the supply of steel from the United States, has made control of supplies necessary now that a steel strike has tied up U. S. production.

Mr. Huie will be assisted by an advisory committee consisting of the heads of the largest steel companies in the Dominion.

Meanwhile, so critical is the shortage of building material that a special investigatory committee was set up at Ottawa in association with the Federal Department of Reconstruction.

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Water Supply—*Seattle, Washington,* plans the construction of a $750,000 pipeline to serve the proposed Seattle-Tacoma airport and suburban areas. . . . *Phoenix, Ariz.,* began surveys to guide water system expansion plans. . . . *Sylvis, Ill.,* said it would build a pipeline to draw supplies from the Mississippi River.

Bond Issues—*Los Angeles County, Calif.,* will vote on a $19,000,000 issue in April to finance a new courthouse building. . . . *Columbia, Mo.,* will vote April 2 on a $150,000 issue for a war memorial building. . . . *Durham, N. C.,* will issue $248,000 in bonds to finance sewage system extensions.

Buildings—The Missouri State School at *Marshall* will spend $5,000,000 on new buildings and land acquisition. . . . The Louisville Cement Co. will spend $1,500,000 on plants at *Speed, Ind.* . . . Purdue University, *West LaFayette, Indiana,* plans a $5,000,000 building program by spring. . . . The International Brotherhood of Boilermakers, Iron Shipbuilders and Helpers will build a $2,000,000 headquarters at *Kansas City, Kan.* . . . Bethlehem Steel Co. announced a $74,000,000 building program, much of it at *Sparrows Point, Md.* . . . Two major sports arenas, to cost a total of $4,000,000 are planned at *Philadelphia, Pa.* . . . The *University of Minnesota* will ask bids soon on three new dormitories. . . . The Illinois State Division of Waterways plans a $300,000 headquarters at *Peoria.* . . . The H. and S. Pogue Co. will build a $2,000,000 service building in downtown *Cincinnati, Ohio.*

Sewage Disposal—*Johnson County, Kan.,* will spend $1,300,000 for sewer lines in suburbs of *Kansas City.* . . . *Kewanee, Ill.,* plans a $750,000 system. . . . *Port Huron, Mich.,* will build a sewage treatment plant that will also handle garbage disposal, at a cost of about $1,730,000.

Highways—*Oklahoma* will spend $27,482,000 in 1946. . . . *Ohio* approved expenditure of $2,818,000 on rural roads in eight northwestern counties. . . . *Arizona* is already embarked on a 3-year, $25,000,000 construction program. . . . Heavily-travelled Highway 30, running west from *Milwaukee, Wis.,* will be completed in 1946 at a cost of $2,000,000. . . . *Oregon* hopes to have $16,000,000 worth of projects under way by June. . . . *Kentucky* recently awarded $2,000,000 of contracts, first in its $150,000,000 of a 3-year plan. . . . *Florida* will spend $5,000,000 this year on a 4-lane coastal highway between *Jacksonville* and *Miami.* . . . *Columbus, Ohio,* will spend $1,342,000 on street repair and improvement. . . . *Indiana* hopes to spend $34,000,000 on its roads in 1946. . . . *Mississippi* legislators approved a $5,000,000 appropriation for use by counties on unimproved rural roads. . . . *Pennsylvania* said surveys are under way for a $10,000,000 superhighway from Chester Pa., to the Delaware boundary line.

Miscellany—An overhaul of the city zoning law to place control in the hands of one man was proposed in *Columbus, Ohio.* . . . *Pittsburgh, Pa.,* received 13½ acres and $100,000 for a new park. . . . A $5,665,000 airport is planned for *Toledo, Ohio.* . . . *Montgomery, Ala.,* planned a $150,000 administration field for its municipal airport. . . . *Rock Island, Ill.,* asked state funds to plan recreation projects. . . . *Massachusetts* legislators considered the largest state budget in history, including $39,000,000 for highways and $13,000,000 for new construction. . . . *Illinois* approved expenditure of $600,000 for purchase of the Sangamon County courthouse and its grounds, prior to erecting a new, $1,500,000 structure.

Arizona votes raises for highway engineers

Highway engineers and other employees of the Arizona State Highway Commission recently were voted raises to be retroactive to January 1. The vote is in line with similar raises recently voted engineers and highway workers in North Carolina, Missouri and other states (*ENR* Jan. 10. Vol. page 16).

The increase, which includes a flat $15 per month for monthly workers, 10 cents an hour to employees on an hourly basis, and amounts ranging from $25 to $100 monthly for engineers

Calendar of Meetings

NATIONAL

American Concrete Institute, 42nd annual convention, Hotel Statler, Buffalo, N. Y., Feb. 18-21.

Associated General Contractors of America, Inc., Stevens Hotel, Chicago, Ill., Feb. 18-22.

American Railway Engineering Association, annual meeting, Palmer House, Chicago, March 12-14.

American Society for Testing Materials, spring meeting, Hotel William Penn, Pittsburgh, Pa., Feb. 26-27.

American Society for Testing Materials, committee week, Hotel William Penn, Pittsburgh, Pa., Feb. 25-March 1.

National Society of Professional Engineers, conference of state presidents of member state societies, and board of directors meeting, Deshler-Wallick Hotel, Columbus, Ohio, March 29-30.

REGIONAL

Iowa Engineering Society, annual meeting, Fort Des Moines Hotel, Des Moines, Ia., Feb. 19-20.

New Jersey Section, American Water Works Association, winter meeting, Hotel Roger Smith, New Brunswick, N. J., March 1.

Minnesota Federation of Engineering Societies, victory convention, Hotel Radisson, Minneapolis, Minn., Feb. 21-23.

Wyoming Engineering Society, annual meeting, USO Building and Plains Hotel, Cheyenne, Wyo., Feb. 22-23.

Ontario Good Roads Association, annual convention, Royal York Hotel, Toronto, Ont., Feb. 26-27.

Ontario Roadbuilding Association, annual convention, Royal York Hotel, Toronto, Ont., Feb. 27.

Pacific Southwest Section, Society for the Promotion of Engineering Education, annual meeting, Berkeley Campus, University of California, Feb. 22-23.

Minnesota Section, American Water Works Association, Radisson Hotel, Minneapolis, Minn., March 14-15.

Mississippi Valley Conference of State Highway Departments, annual meeting, Edgewater Beach Hotel, Chicago, Ill., March 15-16.

New England Section, American Water Works Association, Statler Hotel, Boston, Mass., March 21.

New York Section, American Water Works Association, Mark Twain Hotel, Elmira, N. Y., March 28-29.

ENGINEERING NEWS-RECORD. Published every Thursday. Return postage guaranteed. Vol. 136, No. 7. Price 25c per copy. Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, 99-129 N. Broadway, Albany 1, N. Y., or 330 W. 42nd Street, New York 18, N. Y. Subscriptions, United States, U. S. Possessions and Latin American Republics, $5.00 for one year, $8.00 for two years, $10.00 for three years. Canada $6.00 for one year, $10.00 for two years, $12.00 for three years. All other countries, $10.00 for one year, $20.00 for three years. Please indicate position and company connection on all subscription orders. Entered as second-class matter October 29, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed in the U.S.A. Cable Address: "McGrawhill New York." Member A.B.P. Member A.B.C. Copyright 1946 by McGraw-Hill Publishing Company, Inc. All rights reserved. James H. McGraw, Founder and Honorary Chairman; JAMES H. McGRAW, JR., President; CURTIS W. McGRAW, Senior Vice-President and Treasurer; HOWARD EHRLICH, Vice-President and General Business Manager; EUGENE DUFFIELD, Editorial Assistant to the President; JOSEPH A. GERARDI, Secretary, and J. E. BLACKBURN, JR., Vice-President (for circulation operations). **Publication office: 99-129 North Broadway, Albany 1, N. Y. Editorial and Executive Office: 330 West 42nd St., New York 18.** District Managers and Branch Offices: Fred G. Hudson, 520 N. Michigan Ave., Chicago 11; 738-9 Oliver Building, Pittsburgh; J. W. Otterson, 68 Post St., San Francisco, 4; Aldwych House, London, W.C. 2, England; Washington; J. M. Spackman, New York; A. B. Cozzens, Philadelphia; E. E. Duff, Jr., Cleveland; B. F. Horn, Detroit and Chicago; W. G. Payne, St. Louis; R. N. Phelan, Los Angeles; J. I. Ballard, Boston; Ralph Maultsby, Atlanta, Ga.

Unusual accident not responsibility of road bureaus, Jersey court rules

Relieves two counties of willful wrongdoing charge in suit over fatal plunge of bus from Passaic River bridge

Governmental agencies are required only to act as "ordinary prudent men" in the construction of bridges and highways so that the facilities may be full and safe within the scope of their ordinary function—that of carrying vehicular and pedestrian traffic—the New Jersey Circuit Court of Appeals said Jan. 14.

Under this interpretation, the court said, such agencies are not required to forsee or guard against all unusual contingencies, and cannot be held criminally liable for failure to provide safeguards against unusual accidents.

The ruling was handed down by Judge Robert H. Davidson, when he ruled out actions against Bergen and Passaic Counties brought by heirs of victims of a 1944 accident in which a crowded motor bus crashed through railings of a bridge over the Passaic River and plunged into the water. Twenty-five persons were killed in the accident.

The two counties, which own the bridge jointly, were named in the action, brought also against the bus company.

Bus didn't skid

Testimony adduced at the trial, Judge Davidson said, produced convincing evidence that the bus, proceeding at a speed of 20 to 25 mph., suddenly turned at a 45-degree angle as it reached the lift span, mounted the 8⅜-in. curb, crossed a 10-ft. sidewalk, crashed through the railing and plunged into the river. "All (this) . . . under its own power, as evidenced by the . . . indentations in the snow and the fact that it was still in second gear when recovered from the water."

"Plaintiffs charge the defendant counties with active wrongdoing and liability for wrongful neglect to perform their duty with reference to the construction of the bridge," the court said. "As the charge can rest only on a positive, affirmative act on the part of the counties, it could be found only in the construction of the bridge.

Bridge is highway

"A bridge is but a highway or road carried over a river, and the counties' obligation was to act as ordinary prudent men in the construction of this bridge, so that it might be full and safe within the scope of its appropriate function—namely, in its ordinary and normal use as a vehicular and pedestrian crossing.

"The evidence with respect to minor departures from established standards of construction is inconsequential. The operation of the bus in the circumstances, whatever the reason therefor, was obviously neither normal nor ordinary.

"Clearly, the situation was one which ordinary prudent men could not reasonably be expected to forsee or guard against, if, indeed, it is possible in a practical sense to guard against such a contingency.

"To hold otherwise would make the counties insurers against every contingency which might possibly arise.

"This is not the law, and, accordingly, verdicts will be directed in favor of the counties of Passaic and Bergen."

Mayor of Syracuse ends water strike

Declaring that all forces of law and order would be used to protect the city, Mayor Frank J. Costello of Syracuse, N. Y., on Feb. 7 halted a 4-hour strike of 125 city water department workers seeking pay increases of from 12 to 37 percent.

The mayor told union officials that the city would not undertake any negotiations while the men were off the job, and he gave them one hour to go back to their posts.

"You are violating the law and endangering the lives of the citizens of Syracuse. The city is not going to brook anything of this sort. There will be no negotiating until you go back to work, and I am giving you one hour to do it. If this is not done I shall call upon the Governor to order the New York Guard into action. We'll not be brushed off."

The men went back to work.

House passes $260 million works bill

A total of $260,762,250 for construction and planning by the U. S. Army Engineers is provided in the War Department Civil Functions Appropriation Bill (H.R. 5400) for the fiscal year 1947, as passed by the House Feb. 7.

This amount is about $59,000,000 less than the President recommended in his recent annual message to Congress but is about $4,000,000 above what has been provided for similar work by the corps for the fiscal year 1946, which ends June 30. Early Senate action is expected.

Flood control money in the bill includes: General flood control construction, $96,150,000; preliminary studies and detailed planning, $10,900,000; Lower Mississippi River work, $46,500,000; emergency construction and maintenance, $2,924,000; Sacramento River projects, $2,000,000, and Fort Peck power plant, $1,505,000.

Largest appropriations in the general flood control fund are: Clark Hill Reservoir in Georgia, $4,000,000; Allatoona Reservoir in Georgia, $4,000,000; Bull Shoals Reservoir in Arkansas, $3,585,200; and $3,500,000 for each of the following projects, Fort Gibson Reservoir in Oklahoma, Wolf Creek Dam in Kentucky, Bluestone Reservoir in West Virginia, and Center Hill Dam in Tennessee. Also provided is $3,000,000 for Garrison Dam on the Missouri River. The House did not limit the height of the dam, but did specify certain limitations regarding storage of water.

Appropriations for rivers and harbors work approved by the House includes: Continuation of previously started projects, $27,776,250; construction and dredging to maintain existing projects, $67,871,000; and planning of 20 new projects, $2,235,500. The $27,776,250 item is planned to continue 20 projects and includes the following amounts: St. Marys River, Michigan, $4,611,250; New York and New Jersey channels, $3,634,000; Mississippi River between the Ohio and the Missouri, $3,500,000; Missouri River above Kansas City, $2,500,000; Intracoastal Waterway between Apalachee Bay and the Mexican border, $2,030,000; New York Harbor, $1,510,000; Neches and Angelina Rivers in Texas, $1,500,000; and Missouri River, mouth to Kansas City, $1,500,000. It is to be noted that the House failed to provide any money for the Cross-Florida Barge Canal, although the House Appropriations Committee approved $15,000,000 for this project. The engineers are supplied with $2,900,000 for alterations of bridges.

The bill as approved by the House also supplies $17,377,000 for engineering and planning work for the Panama Canal. This money is earmarked as follows: Maintenance and operation, $12,749,000; sanitation work, $2,010,000, and additional facilities and planning, $2,618,000. The latter item includes $1,500,000 to make a comprehensive survey of the canal to increase its capacity and security in view of the development of the atomic bomb and other advancements during the war.

Shop-Built Houses For Sale, f.o.b. Mill

Precision jigs serve complete fabrication of components such as gable ends, pre-assembled as shown here with rake cornice and louver frames installed.

Precision-built, shop-assembled components for complete shells of a dozen or more models of single-family houses, developed and produced by the John A. Johnson Contracting Corp., Brooklyn, N. Y., are now procurable f.o.b. at the corporation's mill, Pemberton, N. J.

The shop-fabricated components provide accurately matched and marked units for field erection of the houseshell only; the foundation, shell erection, interior wall and ceiling finish, plumbing, heating, wiring and all fixtures, including kitchen and bathroom equipment, must be furnished by local contractors. Thus the system is not competitive with the operative builder; instead, the precut, shop-assembled components ordinarily are sold through established dealers.

Displays of about half the house models in current production went on exhibit, completely finished and furnished, in the John Wanamaker department stores, New York and Philadelphia, Jan. 24. Prices for the shells (frame, exterior inclosure and flooring) range from $2,527 for a 4-room dwelling with 640-sq. ft. inclosed area and 80-sq. ft. porch to $6,136 for an L-shaped six-room house connected by a covered portico in a second ell wing to an attached garage. Outside dimensions of this house are 62 x 28½ ft.; the garage is 11 x 20½ ft. Floor area amounts to 1,344 sq. ft.

Lower prices are quoted to builders who buy in lots of ten or more.

To figure the cost of a completely equipped house, ready for the occupant to move in, the manufacturer recommends that the shell cost be multiplied by 2¼ to 2½, depending on the refinements wanted.

All the present production models are one-story houses, but the manufacturer is ready to produce two-story and one and one-half-story models to satisfy future market demands. The houses are of wood, with floors, walls and roof sheathing supplied in shop-assembled panels. Except for the higher-priced model mentioned above, which is a flat-roof design completely inclosed with waterproof plywood, now hard to obtain, the houses have siding of shingles or shiplap, and shingled gable roofs. Precision jigs are used for all shop work. Precut ceiling joists and roof rafters and all other loose items are bundled and marked in accordance with a key plan and erection guide furnished with each house. Deliveries can be made at reasonable distances within 10 days of receipt of an order, and five carpenters can erect a complete shell, according to one estimate, in 6 days.

Portable electric saw trims diagonal sub-flooring of floor panel, shop assembled in precision jig on work table.

Mill-insulated floor panels, built on order, receive bottom cover of ⅛ to 3/16-in. black, waterproof pressed board, on top of which goes insulation material.

About 40 houses per day

At present, the factory is equipped with precision jigs to produce about 18 one-story models daily. Depending upon the models in production, the Pemberton plant can turn out 30 to 50 houses per day; an average rate is about 15 per shift. Sufficient jig setups are available to fabricate components for seven house models simultaneously in individual production lines. The shell for the four-room model contains 8,200 b.ft. of lumber. In January, the plant had a lumber stock which competent observers estimated might take care of a few thousand houses, but the fabricators warned that needed grades and sizes of lumber were lacking for that output.

During December and January, lumber shipments were slow coming in to Pemberton. The plant sidings can take 50

cars at a time. If the lumber supplies and a housing market are available, the John A. Johnson Contracting Corp. can produce shop-fabricated models at two other mills in Conway, S. C., and Johnson City, Tenn.

Houses meet FHA standards

All models meet FHA standards of construction for FHA guaranteed-mortgage financing. Floor panels with rough flooring attached are set on 2x6 plates anchored to the foundation wall by the local builder. The floor panels carry along their exterior edges, on top of the 1-in. rough floor applied at the mill, sill aligner plates designed with a longitudinal tongue which fits into a groove in the sill of the wall panels. Interior partitions also are set on aligner. Wall panels are tied down to the foundation by 26-gage black iron straps, nailed to the floor frame member and to the foundation plate. Finish flooring, 25/32-in. t. & g. oak, is laid in the conventional manner in the field.

Joints between units come at corners and partition intersections. Wall panels have 2x4 studs 16 in. o.c., and each corner panel is diagonally braced with a 1x4 let into the studs. For additional rigidity, a 2x4 plate is spiked in the field on top of the wall panel plates, lapping the joints. If the exterior is shingle, slip shingles are used at the joints to eliminate battens. For shiplap siding, the siding joints are staggered in shop fabrication, and filler pieces are installed in the field.

Additional insulation can be installed between the studs in the field if desired to meet local conditions. Interior finish applied by the builder can be lath and plaster or dry wallboard.

Shop methods

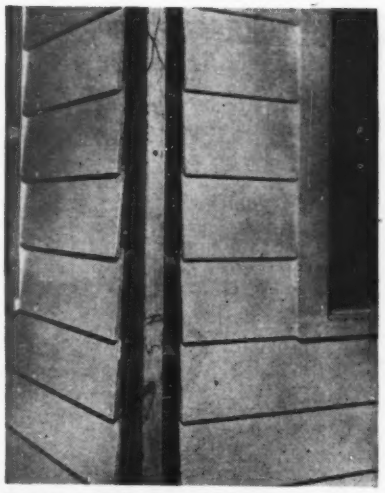
In the Pemberton mill each unit assembly is built up complete from start to finish on one jig bench. The shop, with 160,000 sq. ft. of floor area, has jig setups for seven different models at one time. A separate jig is provided for each slight modification of a panel. Each shift employs about 126 mechanics, plus laborers to feed material and move finished panels. An average of 3½ men, mechanics and laborers, is required for each jig. Finished panels are stacked on wood pallets for transportation by gasoline-powered industrial trucks which pick up the pallets with hydraulic fork lifts.

Lumber is brought from stock to the mill by modern equipment, and the pieces then move by roller conveyor from one operation to the next; the plant has some 6,000 ft. of roller conveyor. Cutoff saws are set up in line to make cuts, square, bevel or miter, as the material moves along. Preshaped pieces for assembly of a complete panel are delivered in advance to a convenient point near the jig setup for final assembly.

Plant Equipment

Equipment in the modern, steam-heated plant, rebuilt after being burned to the ground last March 9, includes one resaw on order; two straight-line rip saws; 26 cut-off saws in the machine department, with others scattered about the mills for odd cutting necessary during panel assembly; about eleven table saws, with both tilting arbor and rolling top; one jointer; one double-end tenoner; two chain mortise machines; about 40 portable, hand-held power saws of all makes, and twelve portable bench sanders. Hand tools are also used.

In charge of the shop-made housing operation for the John A. Johnson Contracting Corp., Brooklyn, are John A. Johnson, president; Edwin Johnson, vice president; assisted by George Seibert. At Pemberton, William Shea is mill superintendent.



Corner panels interlock; they are spiked at corner joints when house is erected. Corner boards are applied in field. Windows are installed complete in shop, fitted with hardware and hung.

Wall panels are sheathed with ½-in. fiber insulating board on top of which 15-lb. building paper is nailed before shiplap siding or strips for shingles are applied.

Interior partition panels consist of stud frames only. Interior doors are shipped in jambs with stops applied; the doors are prefitted and hung, with hardware installed; door knobs and spindle come in separate package.

Pennsylvania communities cited in pollution drive

The Pennsylvania State Sanitary Water Board, recently issued citations against officials of the City of Pittsburgh and several other Allegheny County communities, demanding that the city certify to the Board that it had definite plans for compliance with anti-pollution laws.

Included in the citation were the towns of New Bethlehem, Reynoldsville, Conway, East Rochester and Rochester Township, and Beaver County. Several major industrial firms, including the Crucible Steel Company, the American Steel & Wire Co., and other organizations also were cited. The citations were a part of the vigorous drive against pollution in state. (*ENR* Oct. 4, 1945, vol. p. 417).

City officials, terming the citation "unwarranted", said that the city already has plans well under way for the formation of an Allegheny County sanitary board to coordinate activities in the county.

The Board, not yet organized, will be financed by a $50,000 loan from the City of Pittsburgh, and an expected draft of $150,000 from the federal government.

In another move to contribute to the State's anti-pollution drive, it was announced that the 103-mile Schuylkill Canal, running along the river of the same name in Eastern Pennsylvania has been given to the State by the Reading Company. James A. Kell, State Secretary of Forests and Waters, said that as soon as legal technicalities have been complied with, state engineers will begin surveys as a prelude of construction of two desilting basins to clean the canal and the river.

Photogrammetry experts view new developments

New developments in the science of photogrammetry, spurred by wartime needs on both sides of the battle line were viewed by members of the American Society of Photogrammetry which held its first postwar annual meeting at Washington, D. C.

Col. Gerald FitzGerald, recently released from the Army Air Forces, took office as president of the group.

As a part of the meeting, the Fairchild Award for the greatest contribution to mapping apparatus was presented to J. E. King of the U. S. Forest Service, for his work on photo-transits.

The Abrams Award, which is given for the best article appearing in Photogrammetric Engineering—society publication—during the year, was given to Revere G. Sanders, for an article on the development of stereoscopy.

PRICE INCREASES ON BUILDING MATERIALS OTHER THAN LUMBER

To accompany report on OPA price increases on page 1

Commodity	Increase	Level Increase Applies	Area Effective	Regulation
Gypsum lath and linerboard		Producer		Amdt. 3 Amdt. 4 Order 1 MPR 592
Linerboard	4.25 per M Sq. Ft.		E. Seaboard	
Gypsum lath	2½¢		Cal. and Nev.	
Cast iron tube radiators	2½¢ net per Sq. Ft.	Manufacturer	Total U. S.	Amdt. 5 MPR 272
Cement	10¢ per bbl	Manufacturer Reseller	Ohio, Mich., W. Va., parts Pa.	Amdt. 11 MPR 224
Cast iron soil pipe and fittings	4% or $3 per ton	Producer Jobber	Total U. S.	Amdt. 4 BPS 100
Refractory products	8.6%	Manufacturer Reseller	So. Calif.	Amdt. 6 Order 1 MPR 592
Calcined gypsum plaster bag goods	$2.40 per ton	Manufacturer Reseller	Eastern Seaboard	Amdt. 7 Order 1 MPR 592
Structural clay products			East of	Amdt. 9
Tile	80¢ per ton	Manufacturer	Rocky Mts.	Order 1
Standard brick	$2 per M	Reseller		MPR 592
Building, chemical and industrial lime (except agricultural lime)	$ & ¢ increase granted procedurers	Jobbers Wholesalers Agents	Total U. S.	Amdt. 10 Order 1 MPR 592
Builders' hardware	10% above levels in effect Oct. 1–15, 1941	Manufacturer Reseller	Total U. S.	Amdt. 6 RPS 40
Ready-mixed concrete	$ & ¢ increase Portland cement	Manufacturer	Ohio, Mich., W. Va., W. Pa., Ky.	Amdt. 13 Order 1 MPR 592
Portland cement	10¢ per bbl	Producer	South	Amdt. 12 MPR 224
Ready-mixed concrete	$ & ¢ increase Portland cement	Manufacturer	Ga., Ala., Tenn., La., Miss., N. C., S. C., Fla.	Amdt. 15 Order 1 MPR 592
Low-priced builders' hardware: certain cast iron.	10% over March 1942 levels	Manufacturer Reseller	Total U. S.	Amdt. 2 Order 1 MPR 591
Gypsum lath, liner board and plaster	$3 per M Sq. Ft.	Manufacturer Reseller	(Except Cal. and Nev.)	Amdt. 17 Order 1 MPR 592
Calcined gypsum plaster	$2.40 per ton 1.50 per ton 1.00 per ton		(5 eastern mills) (2 Va. mills) (5 central U. S. mills)	
Douglas fir and minor species of plywood	7½%	Small purchasers	Total U. S.	Amdt. 1 3rd RMPR 13
Portland cement	20¢ per bbl	Producer Reseller	Neb., Kans., Okla., Ark., West Mo., Idaho, Mont., Wyo., Utah, Colo., New Mexico	Amdt. 13 MPR 224
Ready-mixed concrete	$ & ¢ increase for Portland cement	Producer	Neb., Kans., Okla., Ark., West Mo., Idaho, Mont., Wyo., Utah, Colo., New Mexico	Amdt. 21 Order 1 MPR 224
Vitrified clay sewer pipe and allied products	9.7%	Manufacturer Reseller	Eastern and east central areas	Amdt. 15 RMPR 206
Window glass	3.95% over GMPR	Manufacturer	Total U. S.	Amdt. 18 to Order 1 to MPR 592
Vitrified clay sewer pipe 6" and above	11% over GMPR	Manufacturer	So. California	Amdt. 16 to RMPR 206
Cast iron soil pipe and fittings	$6 per ton	Manufacturer Jobber	Total U. S.	Amdt. 5 to RPS 100
Enameled cast iron plumbing fixtureware	8%	Manufacturer Reseller	Total U. S.	Amdt. 2 to Order 48 to MPR 591
Brick and tile	$2 per M 80¢ per ton Over GMPR	Manufacturer Reseller	West Coast	Amdt. 23 to Order 1 to MPR 592
Glazed brick	$2.50 per M	Manufacturer Reseller	East of Rockies	Amdt. 24 to Order 1 to MPR 592
Clay drain tile	80¢ per ton	Manufacturer Reseller	Ohio and Michigan	Amdt. 26 to Order 1 to MPR 592
Domestic oil burners	9%	Manufacturer Reseller	Total U. S.	Amdt. 3 to Order 48 to MPR 591
Gas fired and liquid petroleum fired furnaces	12.5%	Manufacturer Reseller	Total U. S.	Amdt. 4 to Order 48 to MPR 591
Specified items of brass plumbing fitture supply fittings and trimmings	5–25%	Manufacturer Reseller	Total U. S.	Amdt. 5 and 7 Order 48 to MPR 591
Brass plumbing fixture waste trimmings and fittings	9%	Manufacturer Reseller	Total U. S.	Amdt. 6 to Order 48 to MPR 591
Low-Pressure steel boilers	14%	Manufacturer Reseller	Total U. S.	Amdt. 10 to Order 48 to MPR 591
Douglas fir open window sash	11.4%	Producer	Total U. S.	

See page 16 for abbreviations used in these tables

State highway officials group warned of added administrative responsibility

Supervision of federal aid for secondary roads and highways through cities said to call for high type of administrative ability

Prompt recognition of the added responsibilities that have been placed upon them under the expanded national road building program now being inaugurated, was urged on state roads authorities at the annual meeting of the American Association of State Highway Officials held at Oklahoma City, Okla., Jan. 29 through Feb. 1.

Both Herman A. MacDonald, retiring president, and Thomas H. MacDonald, head of the Public Roads Administration, took this subject as the theme of serious talks to the organization.

The meeting, attended by nearly 700 engineers and administrative officers, was unusual in that two panel discussions of current highway problems were substituted for the presentation of prepared papers that normally feature the gatherings. Summaries of some of these highly successful sessions will be presented in a subsequent issue of *Engineering News-Record*.

State-city-county cooperation

Herman A. MacDonald, in his presidential address, warned the assemblage that theirs was the responsibility for the successful prosecution of the impending highway program.

"Nothing short of the soundest and best conceived plans for construction will be acceptable," declared Mr. MacDonald. "Each state highway department must assume the difficult role of cooperating with counties and municipalities in the orderly expansion of this program . . . and so conduct itself that there will be no reasonable ground for a claim of unfairness or lack of proper consideration".

Although the new federal aid bill recognizes, for the first time, that state and governmental assistance is needed to solve the traffic congestion and confusion in urban areas, he cautioned that such a move should not be seized upon by large cities as an opportunity to turn over all their highway and traffic problems to the states.

President MacDonald took cognizance of difficulties confronting the highway program, such as the high cost of construction, the reluctance of contractors to bid large projects due to the uncertainties of labor conditions and materials costs, and "certain attempts being made to place highway construction under the control of some authority empowered to automatically stop or start the work depending on industrial unemployment." These difficulties may delay our construction somewhat at the start, he asserted, but eventually we can overcome them and prosecute our program to a successful conclusion.

Administrative responsibility

Charging that highway administration and management has "failed to keep pace" with technological advances, Thomas H. MacDonald called for modernization of state organizations.

"In view of the greatly enlarged scope of operations that will be required for the proposed construction program, management becomes of paramount importance," Mr. MacDonald said. "The Federal Aid Highway Act of 1944 imposes an administrative responsibility very much greater than at any previous period upon the Public Roads Administration and the state highway organizations . . . and the successful administration of this program will depend to a greater degree than ever before upon how well the various state organizations are prepared to meet the situation.

"In many cases, state administrative organizations are poorly adapted to perform the greatly increased tasks of the immediate future. In the main, these states still have the organization structure set up more than 25 years ago, except for additions through the natural process of accretion. The result is an obsolete organization, inadequate and ill-suited to proper and well managed operations. In such cases the only possible solution is a major reorganization which will achieve the modern, efficient and integrated structure essential to present-day administrations."

"To do the job at hand, highway administration must command professional and technical competence, and it must be organized to take full advantage of the best talent available. During the war period highway departments lost heavily of their best qualified engineering personnel. Some are returning, but many others will not return because of greater inducements elsewhere, particularly in private industry," he added.

Engineer salary scales

Statistics recently submitted by the highway departments, the PRA chief said, show salaries of chief engineering officers range from $4,500 to $15,000 per annum. The medium salary for all states is $6,350. Chief construction engineers' salaries range from $3,360 to $10,500, with a medium yearly salary of $5,000; bridge engineers range from $3,600 to $9,000. Posts of comparable responsibility in private industry, or even in the federal service, command much greater salaries. "In the intermediate grades

(*Continued on following page*)

Herman A. MacDonald, (left) commissioner of the Massachusetts Department of Public Works, and retiring president of the AASHO, presents the gavel of authority to M. J. Hoffmann, newly-elected president. Mr. Hoffman has served as commissioner of the Minnesota Department of Highways for the last six years.

State highway officials group warned

(*Continued from page 7*)

positions such as that of resident or project engineer, the situation is equally unfavorable," continued Mr. MacDonald, "with yearly salaries ranging from $1,620 to $4,800. Steps should be taken to make state highway employment more attractive and secure."

He suggested that a sub-committee of the assiciation's Committee on Administration be designated to carry on a study of the best means of strengthening state organizations, and report to the association in time for the next sessions of the state legislatures.

As an aid in expediting the federal-aid secondary highway program, a recent joint conference of the board of consultants on secondary roads and the PRA recommended: (1) the establishment in each state highway department of a division of secondary highways to cooperate with local authorities in administration, planning, engineering, construction and maintenance; (2) encouraging the development of competent local highway engineering through the highway departments assigning direct responsibility to counties for as much of the work as possible; and (3) the encouragement of counties to establish engineering organizations either individually or in combination of two or more counties.

Selection of highway systems

Regarding the selection of roads for improvement under the new highway program, Mr. MacDonald reported that as of Jan. 17, 1946, the status of federal-aid secondary systems was as follows:

Status	Number of states submitting plans	Mileage
Approved	31	95,320
Reviewed; awaiting further information	3	6,140
Under review	5	32,310
Awaiting review	3	17,990
Total submitted	42	151,760

A total of 45,556 miles has been recommended for inclusion in the National System of Interstate Highways (*ENR* Jan. 10, vol. p. 43), including 2,015 miles of circumferential and distribution routes in most of the larger cities.

In the tentative integration of these proposed routes which will be submitted soon for consideration by the highway departments, the PRA has selected a main inter-city system of 36,950 miles. The remaining 3,050 miles permitted under the program will be held in reserve for a later and more uniform designation of routes in urban areas.

Major General Philip B. Fleming, administrator of the FWA, addressed the convention on highway safety. He prefaced his remarks by reading a letter from President Truman to President MacDonald, extending an invitation to state highway commissioners to attend the President's Highway Safety Conference to be held in Washington, D. C., May 8-10. General Fleming will be chairman of the conference and Thomas H. MacDonald will be director.

Urban development

Regarding future highway legislation, J. W. Robinson, chairman of the Roads Committee of the House of Representatives, touched briefly on the problem of urban development. The annual authorization of $125 million under the new highway program provides about $1.70 per capita for each urban resident—an increase of more than one-third over the $4.50 per capita spent by the cities themselves on urban construction and maintenance during 1940.

If this increased amount of funds proves insufficient to deal satisfactorily with the traffic problems that now overwhelms our cities, declared Congressman Robinson, a remedy can be applied through future legislation.

Samuel C. Hadden, consulting engineer, Indianapolis, Ind., was awarded a certificate of appreciation of his services as president of the association during 1944. The presentation was made by Fred R. White, chief engineer, Iowa State Highway Department.

Meritorious awards

At the second morning session, Lt. Col. Franklin M. Kreml, Office of Chief of Transportation, War Department, presented meritorious citations to seven members of the association, "for patriotic service in a position of trust and responsibility as a member of the National Highway Traffic Advisory Committee to the War Department", during the war emergency.

Those receiving the citations were: Thomas H. MacDonald, chairman of the advisory committee, Herman A. MacDonald, Samuel C. Hadden, Brady Gentry, G. Donald Kennedy, J. S. Williamson, and Hal H. Hale, executive secretary of the association.

Earlier in the meeting Mr. Hale read a list of 473 names of state highway employees who will receive the association's newly created meritorious award for 25 years total service with any one highway department or the PRA. The award will be given to men having a minimum rating of division engineer or positions of comparable responsibility.

In resolutions adopted at the closing session, the association urged the Reconversion Administrator and the director of the War Assets Corporation, RFC, to consider the immediate transfer to the state highway department, at reasonable prices, of some 24,000 units of government-owned surplus equipment urgently needed for highway maintenance.

A second resolution requested early appropriation by Congress of the $3,000,000 unappropriated balance in the Public Lands Highway Fund for the improvement of certain links in the federal-aid systems of some of the western states which cannot otherwise be completed for many years with available state funds.

In a third resolution the association urged Congress to revise existing laws regulating the height of aerial antennae or light masts on small craft navigating small streams only. This resolution was drafted with the hope of reducing the permissible clearance of high-level structures and lift bridges over minor streams.

In other resolutions the association advocated the increased elimination of railroad-highway grade crossings; the continuation of federal participation in the construction of the Inter American Highway as a peacetime project of military significance.

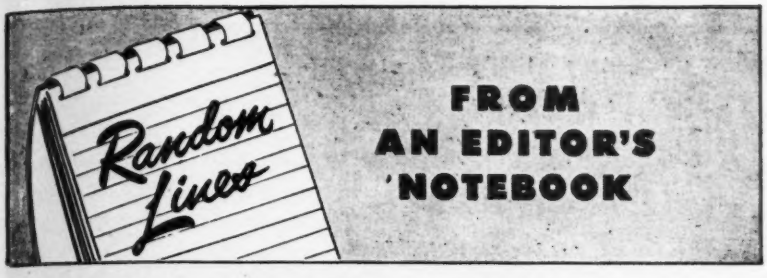
New officers

M. J. Hoffmann, commissioner, Minnesota Department of Highways, was elected president of the association for 1946, succeeding Herman A. MacDonald of Massachusetts. C. W. Phillips of Tennessee was elected first vice-president, and W. W. Polk of Illinois was reelected regional vice-president. Newly elected regional vice-presidents were: Spencer Miller, Jr. of New Jersey; H. B. Henderlite of Louisiana; and R. H. Leavitt of Utah. G. H. Henderson of Rhode Island was reelected treasurer. New members of the executive committee are: C. W. Brown of Missouri, H. E. Sargent of Vermont and D. C. Greer of Texas.

Approve new standard for structural shapes

A voluntary simplified practice recommendation covering hot-rolled carbon steel structural shapes has been approved for promulgation and will be available this month, according to the National Bureau of Standards.

Identified as R216-46, the recommendation is composed of 19 tables and covers the nominal sizes weights per linear foot of wide-flange sections, light beams, stanchions, joists, standard-beams, H-beams, wide-flange bearing piles, channels and tees.



FROM AN EDITOR'S NOTEBOOK

Moles awards go to a former railroad builder of the West and Northwest and to one of New York's pioneers in subaqueous tunneling

An unusual glimpse of construction in the days when its chief tools were the pick, shovel and wheel-scraper was given last week to more than 700 engineers assembled in New York City for the annual award dinner of the Moles, an organization of men associated with tunnel driving and heavy construction.

The flash-back to the heyday of railroad building was given by O. W. Swenson, president of Foley Brothers, who, though now in his 82d year, is still active in the company's affairs.

In presenting an award to Mr. Swenson for outstanding achievement in construction, E. A. Prentis of Spencer, White & Prentis, pointed out that in 1885, when Mr. Swenson was 21, he was an important assistant to the late James J. Hill, the great railroad builder, and that three years later he entered the employ of Foley Bros. Within a few years that company had 40,000 men engaged in building 3,000 miles of railroad, an enormous undertaking for a single firm under any conditions.

In accepting The Moles award Mr. Swenson pointed out that he had been in a position to see the development of the middle and northwestern part of the United States as well as of Canada during the early days. "In contrast to this pioneering work," he said, "I have observed in the last several decades the gigantic industrial operations performed by the construction industry, particularly during the war period; and I am impressed by its efficient carrying of the responsibilities so suddenly thrust upon it.

"It seems a far cry back to the construction methods and equipment of the late 1800's or early 1900's. Then, picks, hand shovels, wheelbarrows, slip and wheel scrapers, stone boats, teams, canoes and even dog teams were the backbone of construction operations and service of supplies. Our nearest approach to mechanization was a ½-cu.yd. steam shovel mounted on a wagon base.

"Today we have the finest construction equipment human ingenuity can devise. In our company we have progressed from that ½-cu.yd. steam shovel to a 20-cu.yd. electric unit with every swing recorded on a chart and the cab hermetically sealed against dust and moisture. The old shovel could be loaded on one flat car while it takes 68 cars to transport the electric unit.

"Thus in my lifetime I have seen the use of the hands of men and the power of horses changed to steam power, then to electric power, to the gasoline engine and finally to diesel. It may be that in the not too distant future the miraculous power of the atom will be available to us.

"During the pioneering era our problem was chiefly one of logistics—getting men and materials to the right place at the right time—in spite of the vagaries of weather and the almost complete lack of transportation and communication facilities. Then and only then could we come to grips with nature's wilderness—such things as rocks and muskeg.

"Today, while you grapple with the physical problems more quickly, you are saddled with man-made burdens and responsibilities the oldtimers never dreamed of. In addition to being a constructor, you must be a banker, lawyer, tax expert, be conversant with thousands of union and government regulations and be able to furnish, at a moment's notice, 20 copies of anything."

Subaqueous tunneler honored

The Moles member award went to Miles Killmer of Mason & Hanger, a pioneer in subaqueous tunneling at New York. He was introduced by Howard King, chief engineer of Mason & Hanger, who told of some of the highlights of his career since he began work on the Pennsylvania R.R. tunnels in 1906. Included was an account of Mr. Killmer's attempt to introduce a hard hat (in this case a derby) to subaqueous tunneling.

In accepting the award, Mr. Killmer said that the British workmen who came over here for the early tunnel work at New York taught him a peculiar language that was of little use in making a speech on such an occasion. He then proceeded to disprove his own words by paying high tribute to those who over the years had run the interference or had held the line while he carried the ball.—*H.W.H.*

South Carolina divided highway nears completion

Now nearing completion is this 4-lane divided highway, running 29 miles between Spartanburg and Greenville, S. C. It will be the longest divided express highway in the state.

Construction started in 1936, but the work was interrupted by the war. As completed, the road provides two 20-ft. unreinforced concrete pavements, separated by a median strip of 20 ft. maximum width. Maximum grade is 5 percent and the sharpest horizontal curve 2 degrees. Bridges generally were built as two separate structures, with railing of the type illustrated above at road locations where no sidewalks were required.

W. F. Bowe & Co., Augusta, Ga., holds the contract for the remaining 8.2 miles of the eastbound lane, left unfinished when the work was interrupted. F. E. Armstrong, district engineer for the South Carolina State Highway Department, was in general charge, with L. B. Aull as resident engineer.

Use "U"-shaped conduit for airport drainage

Concrete pipe sections eliminate excavation at West Virginia Airport built by CAA

A new solution for some of the many problems of economical and efficient drainage of airfields is now in use at a Civil Aeronautics Administration-built airport at Parkersburg, W. Va.

In order to avoid additional extensive rock excavation, which would have been necessitated by increasing the primary grades to allow the flow of surface waters for a long distance, engineers decided to use a continuous box drain and grade.

Catch basins, even when spaced at frequent intervals, are not effective unless the grading can be done so that all the runoff passing the drainage line can be diverted to the catch basin grade. It was not practicable to do so at this site.

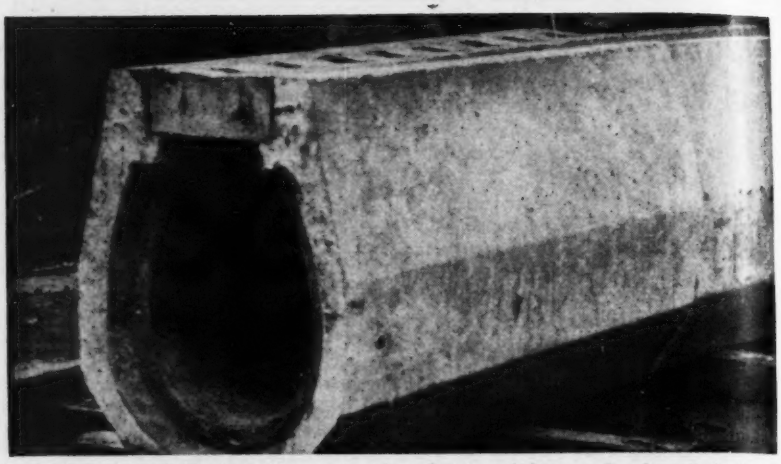
The use of lines of open joint pipe, backfilled to the surface with porous material, was not judged satisfactory, since when material of sufficiently large size to take the volume of surface water involved is used, failure of the trench walls, development of sink holes and silting of the pipe frequently occur.

While the design for the Parkersburg airport was in progress, a new type of conduit, shown in the accompanying reproduced photographs, was introduced. Installation was made adjacent to runway No. 2 and taxiway No. 7 as part of the airport drainage system.

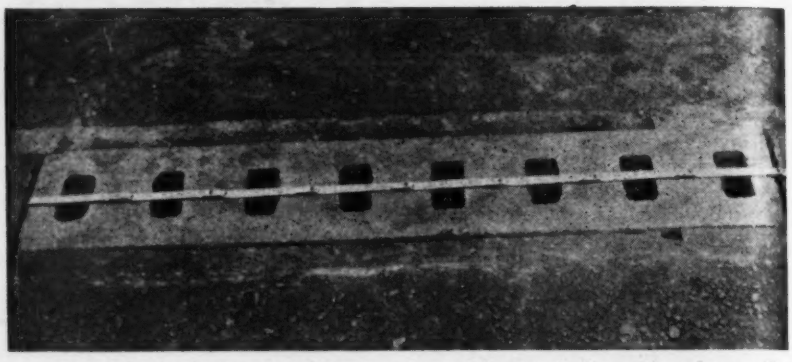
The open-grate conduit is precast in two units: a U-shaped frame and a removable precast concrete open grate top. Minimum wall thickness is 3 in., with the top having a minimum thickness of 3½ in. No. 0 bars 3 in. on centers are used for the top, with alternate bars bent up. Circumferential No. 6 bars, 2 in. on centers, and longitudinal No. 8 bars, 8 in. on centers, reinforce the U-shaped section. These units were precast in 4-ft. lengths and have a tongue and groove joint.

Considerations favoring the use of the design included the fact that the unit can always be inspected and cleaned, and the removal of the surface water is accomplished very rapidly for the entire length of the line. Wartime restrictions precluded the use of steel for a subway type grating for the top. However, the lines have carried off surface water in a satisfactory manner, engineers said.

The conduit was installed by Meyers-Western Grading Co. for the Civil Aeronautics Administration, from a design developed by Herman G. Moselowitz, of New Brunswick, N. J. John A. Cowles, chief, airport design, 1st region, acted for CAA.



A section of the "U"-shaped concrete pipe developed for use in airport drainage to eliminate necessity for extensive grading to allow for flow of surface water



A pipe section in place. Openings are about 4 in. apart, the entire pipe section being about 4 ft. in length, as shown at this installation

Completed installation along one runway of the Parkersburg, W. Va., airport. Pipe is flushed with surrounding ground, offers no obstacles to endanger flight operations, or interference with maintenance. Sections can be easily opened for cleaning and repair. Civil Aeronautics Authority tests showed the pipe sections capable of carrying a 1,500 lb. per sq. in. load.

NHA head outlines far-reaching plan to increase housing construction

Recommends postponement of deferrable construction, training of 1,500,000 housing craftsmen, increased priority control and premium payments for housing materials

Wilson W. Wyatt, recently appointed housing expediter, last week revealed an extensive program he considers necessary to solve the severe housing shortage.

His recommendations were made one days after his nomination as administrator of the National Housing Agency had been approved unanimously by the Senate. Mr. Wyatt will now hold both jobs —NHA Administrator and Housing Expediter.

(*On January 25, President Truman nominated Mr. Wyatt to replace John B. Blandford as NHA administrator, following the announcement that Mr. Blandford would leave shortly for China to aid the Chinese government in setting up a budget system. In an announcement at the same time, John W. Snyder, director of War Mobilization and Reconversion, delegated necessary functions and authority to Mr. Wyatt to carry out his duties as housing expediter—a post to which Mr. Wyatt was named late in December.—Editor*)

Mr. Wyatt declared that construction of 2,700,000 low- and moderate-cost homes must be started by the end of 1947. Of these, 1,200,000 units, including 700,000 conventional houses, 250,000 permanent prefabricated houses, and 250,000 temporary units, would be put under construction this year. The goal for 1947 is set at starting construction of 1,500,000 homes, of which 900,000 would be conventional units, and 600,000 permanent prefabricated units. It is hoped that the program can get under way on a large scale by the end of March.

Asks for broad powers

To accomplish the work outlined, Wyatt outlined a program of great scope. His major recommendations include:

(1) Establish preference for veterans and their families in the rental or purchase of new homes with appropriate provisions for non-veteran hardship cases.

(2) Greatly expanded production of conventional and new type materials by use, where necessary, of: Premium payments for increased production; guaranteed markets; priorities and allocations of equipment and materials; wage-price adjustments where necessary and not inflationary; rapid tax amortization for plants newly built or converted to produce essential building materials, and government absorption of undue risks in development of new type materials.

(3) Recruitment and training of 1,500,000 additional on-site and off-site housing workers by the middle of 1947, which would triple the present labor force engaged in residential construction.

(4) Postponement of all deferrable and non-essential construction for the balance of 1946 to release materials and labor for housing.

(5) Rapid expansion of factory fabrication of materials and parts by making materials available and guaranteeing the market for the product.

(6) Establishing priorities and allocations to home builders for equipment and materials.

(7) Channelling the largest part of materials into homes and rental housing, both farm and urban, selling for not more than $6,000 or renting for not more than $50 per month.

(8) Curbing of inflation through more effective price control on building materials, ceilings on new and existing homes, and on building lots, and by continuation of rent controls.

(9) Early adoption of the Wagner-Ellender-Taft Housing bill (S. 1592).

(10) Insured mortgages on low cost homes up to 90 percent of value and based on necessary current costs.

(11) New temporary federal legislation to support the program, including $250,000,000 for temporary re-use war housing with the aim to provide 100,000 dwelling units by re-use of Army barracks and other military housing; Approval by Congress for the Reconstruction Finance Corp. to play a major role in financing the program by being authorized to pay $600,000,000 for premium payments to those organizations improving and increasing production of conventional and new type building materials.

Hearings held on housing bill

Recently a House Banking Committee during hearings on the Patman Housing Bill (H.R. 4761) failed to approve the proposal of placing ceilings on the sale price of used or existing housing and on the purchase price for land for housing construction. Nevertheless, these provisions are sure to be requested in the House as a whole and may be added at that time.

Director Small, of the Civilian Production Administration recently revealed that the priority assistance program whereby builders can obtain an HH priority rating to build homes costing up to $10,000 (*ENR* Jan. 10, vol. p. 13) will be materially changed. He said that the cost ceiling will be lowered appreciably, perhaps to $6,000, as the present total cost is much too high.

Photo by British Combine

Rebuild railroad bridge over Po River

Allied military engineers, using Italian and German labor, move rapidly toward restoring rail communications in Italy, disrupted by bombing attacks and gunfire directed at bridges and important structures.

With Bailey-type trusses, engineers are pushing a temporary structure across the Po River in Northern Italy. The bridge will rest on the bricked pier in the foreground, and on the piles being driven across the stream at left. Part of the old through-truss structure, up-ended when blasted from its piers, is at center.

MEN AND JOBS

The Federal Works Agency has announced that **Murray M. Davis,** supervising engineer, will retire June 30, 1946, after 24 years of government service. **Albert E. Sanderson,** now Public Buildings Administration division engineer in Atlanta, Ga., will be appointed supervising engineer, effective July 1. He is a graduate of the University of North Dakota and entered government service in 1916.

Capt. Wm. B. White of the Royal Canadian Engineers, has been assigned to Montreal, Que., from Wainwright, Alta., where he served as engineer works officer of the Wainwright Internment Camp.

E. L. Blair has been appointed chief building service engineer and **Neal Williams,** chief industrial engineer for Stone & Webster Engineering Corp., Boston, Mass.

L. P. Cousineau has been appointed town engineer at Val d'Or, Que. A graduate in civil engineering from the Ecole Polytechnique of Montreal in 1936, he has been employed since his graduation as construction engineer with the Dufresne Engineering Co. Ltd.

Recent construction of a giant water tank at Great Falls, Mont., was under orders of these engineers. Left to right: ROY ANDERSON, of Dudley-Anderson Co., contractors; W. S. KILGREEN, president, Corwin Co., consultants; W. H. WICK, project engineer, Federal Works Agency, and C. A. DECKER, project engineer for Corwin.

Five highway bridge engineers, halt discussion of their favorite subject for a group photo. Left to right, they are: E. E. FRASER, Florida; W. J. GOODING, South Carolina; T. B. GUNTER, North Carolina, L. W. ERICKSON, Tennessee and RAYMOND ARCHIBALD, Washington, D. C.

W. H. Cushman of Marion, former Arkansas Highway Department official and civil engineer, has been appointed city engineer for West Memphis, Ark.

The Bureau of Community Facilities of the Federal Works Agency has announced the appointment of **William D. Jones** as division engineer, Division No. 1, embracing New England, New York and New Jersey, to succeed **L. A. Gillett,** who resigned Jan. 16 to become assistant chief engineer of the Virginian Railway Co. at Norfolk, Va. Mr. Jones is a graduate of Columbia University and formerly was construction engineer on highway and tunnel projects. **W. H. Sindt** has been promoted from acting division engineer to division engineer for Division No. Six, Texas, Arkansas, Louisiana and Oklahoma, with headquarters at Fort Worth, Tex.

Charles Camsell has retired as deputy minister of Canada's Department of Mines and Resources—the federal department which includes all of Canada's survey and mapping organizations.

Lt. Col. Samuel E. Marquart, Alexandria, Va., has been awarded the Legion of Merit for service with the Army Engineers—"outstanding service to the repairs and utilities division of the office of Chief of Engineers from January, 1943, to November, 1945."

Ferd Schlapkohl, since April, 1944, chief of the division of irrigation operations of the Bureau of Reclamation at Boise, Idaho, has retired after 35 years of continuous service. He joined the bureau on the Yakima Project in 1911.

Emile Waltzing, former California engineering commission's planning and survey engineer, has been appointed state building board superintendent. For eleven years he was senior bridge designer for the California road commission, and prior to that was with the Bethlehem Steel Co.

J. F. Campbell and **Banks Arendell,** both of Raleigh, N. C., and **W. L. Cobb** of Atlanta, Ga., have organized the J. F. Campbell Construction Co. at Raleigh.

James A. Fletcher, has been appointed county engineer and road superintendent of Peterborough County, Ontario. Mr. Fletcher is a civil engineering graduate of Toronto University.

Dwight W. Shepherd has resigned from the U. S. Army Engineer Procure-

ment Division, Columbus, Ohio, to join the Gibson-Stewart Co., contractors' equipment distributors, as sales representative in the Columbus territory.

1st Lieut. Charles J. Nelson has replaced Capt. Thomas B. Gunter as post engineer executive officer at Camp Butner, N. C., and **1st Lieut. Frederick C. Parsons, Jr.**, has been named post engineer equipment officer. **Capt. Joseph A. Baker** has been made post engineer troop supply officer, replacing **Capt. Leonard M. Pickford,** who has become assistant post engineer troop supply officer.

Walter S. Hedges, Middletown, Conn., has been appointed building code engineer by State Housing Administrator Prentice White. Mr. Hedges will assist in the preparation of a uniform building code for Connecticut.

The Guy F. Atkinson Co., heavy construction contractors and engineers, has opened a Pacific Northwest district office in Portland, Ore., **George Wintz,** who was project manager on the Moro Bay breakwater in California is district manager, and **Richard G. Rofelty,** project engineer on Atkinson's Aleutians contract for the government, is district engineer. Atkinson for the present will maintain its office in Seattle to supervise completion of work in Alaska, where the company had a number of government contracts during the war.

The Iowa state highway commission has announced the appointment of **A. A. Baustian,** of Ames, as construction engineer to fill the vacancy existing since the death of Franklin H. Mann. Baustian has held numerous posts with the commission since 1918, and during the war was loaned to the federal government as construction engineer for the $3,000,000 enlargement of Fort Des Moines.

Capt. A. P. Elmore has been promoted to major. Entering the service Nov. 1942. he has been stationed in Paris, Ill., since April 1944, in charge of the surplus property branch for the Chief of Engineers.

Carl R. Chamberlin, until recently safety engineer for the U. S. Vanadium Corp. group of mines and mills in western Colorado, has joined the staff of the Arabian American Oil Co. as safety engineer in Arabia.

Leonard R. Dunkley, resident engineer of the Provo project in Utah since April, 1944, has been promoted to construction engineer. A 23-year veteran in reclamation and construction for the Bureau of Reclamation, Mr. Dunkley will have field supervision of the entire Provo River project.

Back to civilian activity

Joseph Gilbert, lieutenant-colonel in the Army Sanitary Corps, has become manager of the sanitary engineering division of The Link-Belt Co., Philadelphia, Pa.

Lloyd Clark, lieutenant-colonel in the Army Sanitary Corps, has returned to his former post as state sanitary engineer in North Dakota.

Peter J. Smykla, lieutenant colonel, Corps of Engineers, will resume active management of Granite Quarries, Inc., Yonkers, N. Y., specializing in design, cost analysis, and erection of granite.

C. R. Ihlenfeldt, lieutenant, CEC, USNR, has returned to the Illinois Division of Highways, Springfield. He spent 23 months in the Admiralties, Solomons, and Philippines.

Robert Dunlap, lieutenant, CEC, USNR, is now back with his father in the Madison Construction Co., Edwardsville, Ill.

Dewane Cullinan, lieutenant, USNR, is now associated with his father in the construction firm of R. A. Cullinan & Son, Tremont, Ill.

Eugene B. Sullivan, captain, Corps of Engineers, has been appointed director of public works of East Hartford, Conn., to succeed John Murphy.

William W. Studdert, of Washington, N. C., captain, CEC, USNR, plans to open an engineering office at New Bern, N. C.

Edward H. Feldmann, comdr., Seabees, becomes city engineer, of New Rochelle, N. Y., a new post created especially for him. He was engineer of sewer design for the city.

R. Preston Watts, major, and post engineer at Camp Butner, N. C., has been discharged from the Army and has been succeeded by **Capt. Edward R. English,** who is serving as acting post engineer.

Chester F. Lewis, lieutenant colonel, Corps of Engineers, member of a Greensboro, N. C., engineering firm before entering the Army, has returned to Greensboro.

Arthur J. Benline, commander, CEC, USNR, has returned to his post as superintendent, Department of Housing & Buildings, New York City, after an absence of three years on military leave as commander of the 70th U. S. Naval Construction Battalion.

The following engineers have returned from the armed services to the Bureau of Engineering, Chicago. Division of Water Purification: **T. Donahue,** colonel, sanitary engineer; **Harry Berggren,** private, assistant engineer; **William Hennessey,** captain, junior engineer; **Homer M. Cronk,** chief ships fitter, U. S. Navy, engineering draftsman (bridges); **Wilbert Anderson,** warrant officer, C.E.C. (U.S.N.), bridge designing engineer; **Lt. Herbert E. Hudson,** filtration engineer; **George W. Kohout,** chief petty officer, U.S. Navy, structural designer; **Woodrow W. Fisher,** lieutenant, assistant engineering chemist; **Harold Mortensen,** S. 1/C., U.S. Navy, engineering draftsman.

Engineering draftsmen returning to the Water Pipe Extension Division of the Bureau of Engineering include **Erwin Best, Charles Dolan** and **Fred Wrzeszez,** all of the Army and **Edward Reedy,** of the Navy.

Above: D. W. LOUTZENHEISER (left), senior highway engineer, Public Roads Administration, and winner of the Highway Research Board Award, admires George S. Bartlett Award plaque presented to FREDERICK E. EVERETT, N. H.

Above: CARL F. WINCHESTER, (left) executive secretary of the Associated Equipment Distributors, discusses organization business with FRANK B. McBATH, newly-seated president, during recent sessions at Chicago, Ill.

New building controls to aid housing

To permit a housing program of the scope outlined last week by Administrator Wyatt of the National Housing Agency (*see p. 11 of this issue*), to go forward, Administrator John D. Small of the Civilian Production Administration has ordered rigid controls be established to curtail drastically commercial and industrial construction.

Start of many projects will be prohibited, and some jobs already under way may need to be shut down.

Details regarding the new controls will not be available for several days. Nevertheless, enough has been revealed to indicate that much work such as construction of theaters will be unlawful.

The controls, which are considered necessary because of the great shortage of building supplies, will undoubtedly be of two types. The priorities now in effect to divert supplies into housing *ENR* Jan. 10, 1946, vol. p. 13) will be broadened by placing many other classes of materials under priorities Regulation 33 to assure their distribution for housing.

The second part of the program will consist of increasing the scope of priorities Regulation 33, which now provides only priority assistance, to make many types of construction prohibitive. This change would make Regulation 33 similar to the old WPB General Regulation L-41, which was eliminated Oct. 15, or shortly before the War Production Board was replaced by the Civilian Production Administration.

In telling of the new controls planned, Administrator Small said, "At Mr. Wyatt's request, regulations will be issued shortly which will drastically curtail commercial and industrial construction work, as well as residential building outside the veterans' program, and it will limit the use of building materials to approved projects. Anyone who now starts construction runs the risk of not being permitted to finish the job unless he is able to prove that the project cannot be deferred and that it is sufficiently essential to be approved under the regulations."

Los Angeles to push smoke abatement plan

Smoke abatement by means of a country-wide system of incinerators to eliminate open dump burning of refuse, has been recommended for Los Angeles County, California, and voters will be asked to approve a $4,600,000 bond issue to finance construction of six large plants in the Los Angeles metropolitan area.

These plants would be constructed in addition to a new municipal incinerator —a proposal for construction and operation of which is now before city authorities. The county plan was proposed by a group of engineers representing the city, county and suburban areas, after an investigation of conditions contributing to "smog" conditions occurring frequently in recent years. These recommendations were accepted by the Board of Supervisors, who ordered a vote on the bonds at the next county-wide election.

Resume St. Louis program

The Union Electric Company has resumed its fly ash elimination program at the Cahokia power plant on the Mississipp River below East St. Louis, Ill., which was interrupted in 1941.

Up to the time the program was shut down the company had spent about $600,000 for equipment and structural changes at the plant. An additional $2,000,000 will be required to complete the installation.

Thousand new homes for Montreal suburb

More than 1,000 new homes are planned for Montreal North, a suburb of Montreal, Que., at a cost of $10,000,000.

This new housing development, to be called "Cite Viel," will be put under construction early in March, sponsors said.

New York "won't wait" on contractors

New York City will not wait on the whims of local contractors to get its huge 1946 building program under way, Mayor William O'Dwyer warned construction men at a recent meeting of the city's Building Congress.

"If the established contractors hold out too long and don't begin to pare their pencils," Mayor O'Dwyer said, "they can expect new ones to come into the field. The city is prepared to get going just as soon as early spring sun comes, and you gentlemen can expect competition to come from North, South, East and West. All we are waiting for in the City Administration is for contractors of established merit to get busy and give us an opportunity to show them what we want.

"We are ready and won't wait five minutes longer than we have to wait."

Approve building pay rise at Portland, Oregon

The pay scale for carpenters, building laborers and certain other building workers in the Portland, Oregon area had been increased from 10 to 20 cents an hour by action of the Wage Adjustment Board. Similar adjustments have been made in many other cities recently (*ENR*, January 31, Vol. p. 149).

Retroactive to January 7, iron workers, welders and riggers were boosted from $1.65 to $1.75; reinforced concrete or rodmen, from $1.375 to $1.55; carpenters from $1.375 to $1.55, and building laborers from $.95 to $1.15. Effective January 18, electrical journeymen's wages were increased from $1.58 to $1.70, and boilermakers from $1.60 to $1.75.

Still before the board are increases requested for painters, linoleum workers, bricklayers, and other classifications of building trades.

Halt Missouri housing

Robert M. Berkley, president of the Builders Guild of St. Louis, Mo., said Jan. 28 that his organization's plan for erection of 600 emergency housing units had collapsed because of labor demands for higher wages.

Mr. Berkley said that the building and construction trades council has demanded that the commercial-industrial, instead of the residential, wage scales be paid on the project. The commercial-industrial wage rates average about $1.70 per hour while the residential rate is about $1.25 per hour.

Labor leaders pointed out that commercial-industrial rates are always charged for public projects, and commented that members of the guild had failed to investigate labor costs before going ahead with their plans for construction.

The Cover Picture

A sewage pumping plant with appropriate architectural treatment is located in the exclusive Sea Cliff residential district of San Francisco.

Perched on the cliff above the beach with an unobstructed view of the Golden Gate, this plant is part of the system designed to alleviate the pollution problem in San Francisco's harbor and beaches.

The plant pumps sewage from this district to the Richmond-Sunset Sewage Treatment Plant at a rate of 2,700 gpm. It contains two horizontal single stage centrifugal pumps rated at 25 hp. with a capacity of 650 gpm. each and one pumping unit made up of two horizontal single-stage centrifugal pumps in series rated at 40 hp.

Construction costs expected to rise as much as 12 percent within a year

Commerce Department figures place wage rise at 15 percent and predicts total construction volume of $7.5 billion in 1946

Construction costs, which are now considered to be about 35 percent above 1940 levels, probably will rise another 8 percent by the end of 1946, William H. Shaw, chief of the construction statistics unit, Construction Division, Department of Commerce, forecast in an address Feb. 6 before the Washington Society of Engineers.

Looking still farther ahead, he said the construction cost rise by 1947 probably will reach a maximum of about 55 to 60 percent above the 1940 level.

The continued urgency of construction demand, coupled with rising prices in general and of construction costs in particular, have set the stage for strong inflationary pressure, Mr. Shaw explained. However, he listed three factors that stand a good chance of offsetting this pressure. These three factors are: Price control, wage control, and increased production of construction materials, the full effect of the latter factor not to be felt until 1947.

Regarding wage controls Mr. Shaw stated that the construction industry is one of the few industries that is still operating under government wage control, that is, increases in wages must be approved by the Wage Adjustment Board.

Other limits also seen

Other factors tending to prevent inflationary prices were cited as follows, "The construction industry itself—once the present distortions are eliminated—should be able to increase its own operating efficiency. Also, the industry presumably is keeping in mind—if it is not it should be—the danger of pricing itself out of a large segment of its market. This is apparently what happened after World War I, and it led to a chaotic situation in 1920 and 1921, which is still remembered by many builders. Moreover, surveys have shown, particularly with respect to housing, that even the present tremendous demand is extremely sensitive and might fall off sharply if prices become too high."

In keeping with other wage rises now being granted, Mr. Shaw said that increases in construction wages should be expected. "It is obvious," he said, "that the proposed increases in steel prices will be reflected in steel products entering construction. Likewise, there is reason to believe that wage increases in the building industry itself may also be granted. I believe that the pattern recently agreed upon in New York City and approved by the Wage Adjustment Board of an average increase of some 15 percent will, in the main, be used as the benchmark for comparable increases elsewhere."

Despite the many problems facing the industry, Mr. Shaw's estimates indicate that the volume of new construction will reach about $7½ billion in 1946 and $12 billion in 1947.

Nail simplification

A technical committee of the American Iron and Steel Institute is sponsoring two closely related simplification programs, which were developed through the established procedure of the Division of Simplified Practice, National Bureau of Standards.

One program proposes a list of stock sizes and types for wire nails and staples. It includes all kinds of wire nails commonly used by the various building trades and by box manufacturers.

Mid-west flood projects up for bidding soon

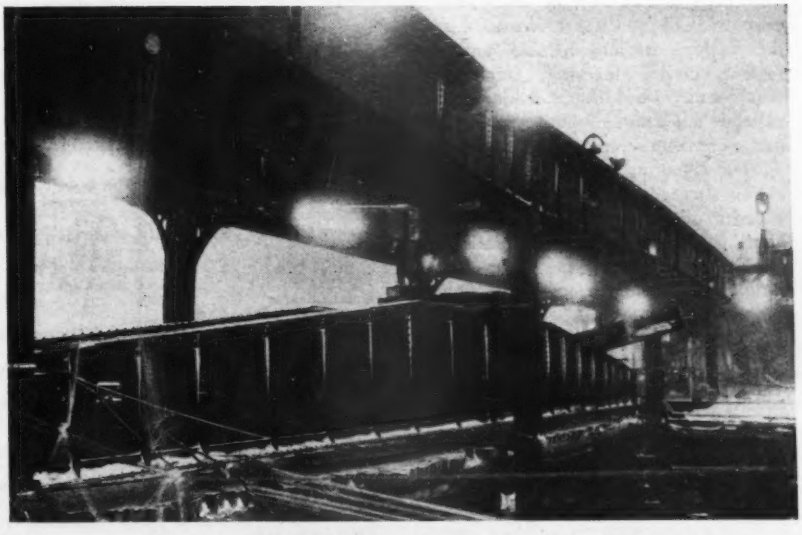
Army engineers last week said that they would ask bids soon on two huge flood control and river development programs.

The Ohio River Division Office announced that tentative dates for opening bids on a $160,000,000 Ohio Valley flood control program had been set.

Major jobs to be advertised in the Ohio program include: Wolf Creek project, bids opened Feb. 5 at Nashville, Tenn.; Dale Hollow reservoir, bids opened at Nashville June 30; Conemaugh River reservoir, bids opened March 18; reconstruction of lock and dam No. 2 on the Monongahela River near Pittsburgh, bids opened March 11.

In an address read before the Sioux City, Iowa, Chamber of Commerce, Maj. Gen. Lewis A. Pick, Missouri River division engineer, said that the Army "soon" will award first contracts for actual construction of some units in the "Pick plan" for development of the Missouri River Basin. General Pick said that among the projects on which work is expected to begin by spring are:

The $500,000 levee and river control works between Kensler's bend in Nebraska and the Sioux City combination bridge; extension of the 9-ft. navigable channel to Sioux City.



Railroad turntable serves as jack platform

When a Liberty ship crashed into the Charlestown Bridge, between Boston and Charlestown, Mass., late in December (ENR Dec. 27, 1945, vol. p. 855), the bridge structure itself and the structure carrying the Boston Elevated Railroad were badly damaged.

In order to restore rapid transit service over the bridge, Boston & Maine Railroad engineers rushed an 85-ft. turntable structure from Mechanicville, N. Y. The turntable was placed upside down on the bridge floor, with its ends resting on the undamaged bridge piers. The table was then used as a base for jacks to raise the elevated tracks to grade and permit train service to be restored. The repair job was done within a few hours of the accident.

ENGINEERING SCHOOL NEWS

New president of Rice Institute—Plan greater curriculum uniformity in Canada's Maritime provinces—Dean Davis to retire at Alabama

William V. Houston, professor of physics and chairman of the department of physics, mathematics and electrical engineering, California Institute of Technology, has been named president of Rice Institute, Houston, Tex. Mr. Houston will assume his new position March 1. He succeeds Edgar Odell Lovett, who will continue at Rice as president emeritus.

A conference was held at Nova Scotia Technical College, Halifax, N. S., recently to plan more uniformity in the engineering courses at colleges in Nova Scotia and New Brunswick. The object is to improve teaching methods to create a more effective curriculum. Participating in the conference were members of the engineering faculties of Acadia University, Wolfville, N. S.; St. Francis Xavier University, Antigonish, N. S.; Dalhousie University and King's College, Halifax; and Mount Allison University, Sackville, N. B.

James R. Cudworth, of the University of Alabama faculty, has been named associate dean of the college of engineering. In announcing the appointment, President Raymond R. Paty said: "Dean George J. Davis, Jr. will retire from the university faculty June 30 next, after 34 years of distinguished service as dean of the college of engineering and professor of civil engineering. During those years, under Dean Davis' leadership, the college has attained both regional and national recognition as one of the foremost engineering colleges of the South.

"To succeed Dean Davis we have selected Prof. James R. Cudworth, who has himself given more than 20 years of effective service to the institution, to the state, and to the region in the field of engineering education."

At the University of Texas bureau of engineering research J. Neils Thompson and W. D. Ramey of the engineering faculty are making a series of tests to determine how structural clay tile units may be used to strengthen pre-cast concrete beams. Associate Director Dawson is directing research on building foundations, and for stabilization of soils in dams, embankments, highways and airports. Another interesting study is of the settlement of San Jacinto monument on a clay bed near Houston. The bureau helped to calculate the rate of settlement before the structure was built and is compiling data based upon experience. So far, advance calculations have proved correct.

To stimulate undergraduate interest in welding, funds have been donated by A. F. Davis, of the Lincoln Electric Co. for an undergraduate welding award, which will consist of four cash prizes, totaling $700, to be presented annually to authors and publications for the best and second best articles on welding published in undergraduate magazines or papers during the preceding year. Any undergraduate in the United States or Canada is eligible.

Pennsylvania cities will get highway aid

Pennsylvania's new $17,000,000 highways assistance act went into effect Jan. 1. Under the act, municipalities will receive the money for work on highways not already supported by the state.

First class townships will obtain approximately $325 per mile per year. Second class townships and boroughs will get about $95 per mile. Mileage allocations have been made by the State Highway Department.

Col. L. B. Yost to direct road safety conference

Col. Light B. Yost has been appointed executive director of the President's Highway Safety Conference, to be held in Washington, D. C., on May 8, 9, and 10. Thomas H. MacDonald, Commissioner of Public Roads, is chairman of the coordinating committee.

The appointment was announced by Maj. Gen. Philip B. Fleming, Federal Works Administrator, who is chairman of the conference.

Colonel Yost

After serving in Army transport in the European theater of operations, Colonel Yost was given the assignment because of his broad civilian and military experience in highway transport and safety.

Colonel Yost went to Africa in 1942 as a highway transportation officer. Subsequently he served as transportation officer in Sicily, France, Belgium and Germany. In France he was Director of Land Operations and Deputy Transportation Officer with the Advance Section, Transportation Staff.

RECENT PRICE INCREASES PERTAINING TO LUMBER

Commodity	Increase	Level Increase Applies	Area Effective	Regulation
Yellow cypress lumber	7%	Manufacturer	Total U. S.	Amdt. 19 RMPR 97
Western pine and assoc. species of lumber	4/4" boards dry dressed increased $1.00 per M	Manufacturer	Total U. S.	Amdt. 2 RMPR 94
Eastern poles and pilings	25% of total invoice may be added to sale of l.c.l. quantities	Wholesaler	Total U. S.	Amdt. 3 MPR 559
Walnut lumber	24%	Manufacturer	Total U. S.	Amdt. 1 RMPR 217
Southern pine lumber, graded	$2.25 per M or 4.7%	Manufacturer	Total U. S.	Amdt. 14 2nd RMPR 19
Southern pine lumber, log-run	$5.00 per M	Manufacturer	Total U. S.	RMPR 19-A
Northern hardwood and softwood lumber	4%	Manufacturer	Minn. Mich., Wis.	Amdt. 4-2nd RMPR 222-Amdt. 13-MPR 223
Western Red Cedar Poles and piling	25% in butt treating	Wholesaler	Western U. S.	Amdt. 2 MPR 554
Western Softwood Shingles	15¢ per sq.	Manufacturer	Total U. S.	Amdt. 3 RMPR 164
White Cedar Poles	7%	Producer Manufacturer Wholesaler	Lake States	Amdt. 3 MPR 560
South Central Hardwood	6.50%	Manufacturer	South Central Hardwood Region	Amdt. 20 MPR 155
Oak, Pecan & Misc. Hardwood Flooring	10% overall	Manufacturer	Total U. S.	Amdt. 4 MPR 458

The abbreviations include: MPR, for maximum price regulation; RMPR, revised maximum price regulation; RPS, revised price schedule; Amdt., amendment; com., common; M, 1,000 b. ft.; and l.c.l., less than carload lots. The term "$ and ¢" used in the tables means the adjustment has not been made on a percentage basis but is so much per unit. For example, with ready-mixed concrete the change will be so many cents per cu. yd. based upon cement content and the price adjustment granted for cement.

OBITUARY

Charles H. Deetz, 82, cartographic engineer with the U. S. Coast and Geodetic Survey for 47 years, died Jan. 27 at Baltimore, Md. A graduate of the Massachusetts Institute of Technology, Mr. Deetz compiled some of the Survey's most important nautical charts, including those of New York Harbor and the Canal Zone.

John Arthur Allen, 52, project manager for Foley Brothers, Inc., Pleasantville, N. Y., died Jan. 30 at Wilmington, Del. In 1942 he became associated with Foley Brothers, becoming project manager of construction of the propeller plant for Remington Rand at Johnson City, N. Y., and the plant expansion program at Farmingdale, N. Y., for the Republic Aviation Corp. He had 30 years experience as construction superintendent, general manager and in estimating, purchasing and organizing construction services.

Theodore Reed Kendall, 55, editor since 1920 of *"Contractors and Engineers Monthly,"* died Feb. 3. Mr. Kendall took a Master of Civil Engineering degree at the Harvard Engineering School in 1914. In 1917 he was named engineering editor of *"The American City,"* a post he held until 1938, except in 1918 when he served as a first lieutenant with the water supply section of the Army Sanitary Corps.

William D. Murray, 68, chief engineer of the New York City bureau of the budget, died Feb. 4. A graduate of Massachusetts Institute of Technology, 1904, in 1906 he joined the N. Y. Board of Water Supply as an engineer and for 8 years was an assistant engineer on the construction of the Catskill Aqueduct. From 1933 to 1940 he did liaison work for the city on the federal works program in New York.

Ralph Whitman, 65, civil engineer and former public works officer of the 3d Naval District, died in Danbury, Conn., Feb. 3. He was graduated from M.I.T. in 1901 and joined the engineering department of Boston. From 1905 to 1907 he was a civil engineer with the Isthmian Canal Commission.

James C. Travilla, 80, died in St. Louis, Mo., Jan. 29. A civil engineering graduate of the University of Pennsylvania, he went to St. Louis in 1886 with the engineering corps of the Missouri Pacific Railroad and entered the service of St. Louis in 1890. He handled the details of the location of the western approaches to the municipal bridge across the Mississippi River in 1907-08.

John Harrison Foss, Sr., 67, Hawaii, died Feb. 2. A civil engineering graduate of Leland Stanford University, 1903, Mr. Foss' career centered in the industrial development of Maui, particularly in scientific research of the island's water supply. This was responsible for a material increase in its water resources. Outstanding achievements of Mr. Foss were the completion of Maui's major ditch system, composed of the Hamakua, Kauikoa and Wailoa ditches. The latter, completed in 1925, consists of 18 miles of concrete-lined tunnel which carries the Central Maui water from its source to the many distribution points.

Charles C. Kirby, 65, Canadian Pacific R.R. engineer for many years, died Jan. 24. Mr. Kirby joined the C.P.R. in 1909 and for 25 years was district chief engineer at Saint John, N. B.

Gilbert A. Baumann, 51, for 20 years civilian chief engineer at the Great Lakes Naval Training Center, died Jan. 28.

George Victor Turner, 45, construction engineer, Seattle, Wash., died there Jan. 24. He was a partner in the Gaasland Construction Co.

William E. Bates, 54, assistant engineer for the state service commission in Wisconsin since 1931, died Jan. 29 at Madison.

James J. Moorhead, 43, county surveyor and head of the Moorhead Engineering Co., Ocala, Fla., died Jan. 27.

Walter P. Copp, professor of engineering at Dalhousie University died at Halifax, N. S., Jan. 31.

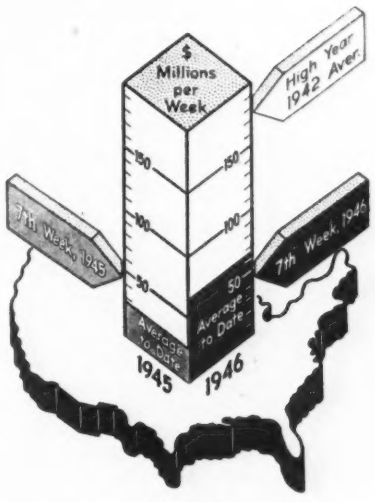
Joseph R. Hews, 90, civil engineer for many years with the Boston public works department died at Roxbury, Mass., Jan. 28. He was engaged in construction in New Jersey before 1900 when he became associated with the bridge and ferry division, City of Boston.

Warren D. Stewart, 54, industrial engineer with Stone & Webster Corp., Boston, died at Wollaston, Mass., Jan. 27.

Ernest G. Lane, 65, civil engineer, with the New York Central Railroad for 32 years until he retired last year, died in Columbus, Ohio, Jan. 17.

William P. Mahony, 77, retired civil engineer and contractor, died Jan. 28 at Yeadon, Pa.

CONSTRUCTION ACTIVITY



As Reported this week to . . .
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Feb. 14 1946	Cumulative 1946 (7 wk.)	Cumulative 1945 (7 wk.)
Federal	$6,648	$49,232	$108,533
State & Mun.	10,295	97,404	21,421
Total Public	$16,943	$146,636	$129,954
Total Private	27,115	301,226	51,454
U. S. Total	**$44,058**	**$447,862**	**$181,408**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Type of Work	Dollar Volume (Thousands) This Week	Cumulative 1946 (7 wk.)	Cumulative 1945 (7 wk.)
Waterworks	$758	$7,104	$5,991
Sewerage	997	4,044	4,161
Bridges	1,780	14,069	5,043
Highways	4,432	50,199	9,926
Earthwork, Waterways	498	28,603	3,326
Buildings, Public	7,520	32,614	76,115
Industrial	15,687	130,423	32,559
Commercial	10,036	153,834	11,448
Unclassified	2,350	26,972	32,839

NOTE: Minimum size projects included are: Waterworks and waterway projects, $15,000; other public works, $25,000; Industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1946 (7 wk.)	Cumulative 1945 (7 wk.)
NON-FEDERAL	$130,321	$113,556
Corporate Securities	59,978	5,670
State and Municipal	70,343	107,886
FEDERAL	158,320	77,137
Total Capital	$288,641	$190,693

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Feb. '46	319.52	153.59
Building Cost	Feb. '46	243.94	131.86
Volume	Jan. '46	189	83

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *DARWIN R. DAY, Statistics* *J. A. MAHONEY, Reports*

(Daily service also available—Write for details)

WATER SUPPLY

BIDS ASKED

Bids Asked February 18

N. Y., New York—Dpt. Water Supply, Gas & Electricity, Municipal Bldg., New York, Zone 7, watermains Horace Harding Blvd., Frame Pl., Brattle, Van Zandt and 51 Aves., 77, 78, 190 and 203 Sts., Queens Boro.

N. Y., New York—Comr. Water Supply, Gas and Electricity, Municipal Bldg., Zone 7, hauling, laying watermains, appurtenances in Brattle, Van Zandt and 51 Aves., 77, 78, 190, 203 Sts., Frame Pl., and in Horace Harding Blvd., Queens Boro; Franklin and Spring Sts., Manhattan Boro. Plans deposit $1 each.

Bids Asked February 21

O., Brecksville—Bd. Comrs. Cuyahoga Co., F. J. Husak, acting clk., New Court House, Cleveland, watermains, appurtenances, Oakes Rd. between Brecksville and Highland Rds., Brecksville Rd., northerly 1770 ft. from Parkview Rd. $27,341. J. O. McWilliams, Standard Bank Bldg., Cleveland, co. engr.

Bids Asked February 25

Ore., Central Point—City, City Hall, installing 2 mi. 8 in. watermain connecting with Medford sys. and constructing 9 mi. water lines in Central Point Sys. Plans deposit $5. P. M. Rynning, Medford, engr. CD 10/5—ENR 10/18.

Bids Asked February 28

Mo., Concordia—City, WW impvts., 40 gpm. driven pump unit, 100,000 gal. concrete reservoir. W. R. Rollins & Co., Exch. Bldg., Kansas City, Mo., engrs. CD 9/28—ENR 10/18.

Bids Asked March 5

†**Kentucky**—U. S. Eng., P.O. Box 59, Louisville, Zone 1, manufacture, prepare and load for shipment, del. f.o.b. railroad cars trucks or barges at Louisville Suboffice, 26 St. and L & P Canal, 25 Chanoine Weir and Pass Wickets Lock and Dam Nos. 45, 46, 49, 50 and 52, Serial No. W-15-029-F-63.

O., Sandusky—K. H. Kugel, city mgr., City Hall, 8,250 lin. ft. and appurtenances 16 in. WW force main. Bids Feb. 1 rejected. CD 1/17—ENR 1/24.

Bids Asked

Ill., Wood River—City, City Council, City Hall, WW sys. exten. to serve International Harvester Co. tractor plant at outskirts of city. $300,000. F. Nifong, 815 E. Acton St., city engr. CD 5/3—ENR 5/10.

Tex., Houston—Ayrshire Corp., 1811 Southgate Blvd., c.i. watermains, Ayrshire Addn. $20,000.

LOW BIDDERS

Minn., Duluth—City, C. D. Jeronimus, clk., Dec. 12, furnishing, installing one 30 m.g.p.d.c. high and low lift pump. unit for Lakewood Sta., from Commonwealth Elec. Co., 417 Bway., St. Paul, **$31,158.** C. Foster, 316 Medical Arts Bldg., engr.

N. M., Mountainair—City, C. Anglin, mayor, Feb. 4. WW sys. exten., imprvs., from E. Starr, Mountainair, **$66,000.** CD 1/28—ENR 1/31.

N. Y., New York—Bd. Water Supply, 120 Wall St., Zone 5, received no bids Jan. 29, rubber lined and covered chlorine solution pipes for Roundout, West Branch and Kensico South Effluent Chambers, Delaware Aqueduct, Contr. 368. Will readvertise. CD 1/14—ENR 1/17.

Tex., Goose Creek—City, City Hall, rejected bids Jan. 21, water distr. sys. extens., imprvs. **$60,000.** CD 1/8—ENR 1/10.

Tex., Houston—Harris County Home for the aged, Beaumont Hy., Jan. 28, elevated steel storage tank, from Chicago Bridge & Iron Co., 5625 Clinton Dr., approx. **$15,000.** H. Zapp, Courthouse, San Antonio, engr.

Tex., Pleasant Grove (br. Dallas)—Dallas Co. Water Control & Imprvt. List. 3, c/o J. Simms, 9-22 N. Buckner St., Dallas, project postponed indefinitely, water imprvs. Koch & Fowler, Great National Life Bldg., Dallas, engrs. CD 9/21—ENR 9/27.

Wash., Lake Stevens—Pub. Utility Dist. 1, 1917 Hewitt Ave., Everett, Jan. 24, 250,000 gal. reservoir, furnishing, installing 2 deep well pumps, 40,900 ft. 4-to-8-in. pipe, 25,000 ft. less than 4 in. diam. for water sys., from Gallagher Kirk & Thomas, 326 Perkins Bldg.; Tacoma, **$65,949.** CD 12/31—ENR 1/10.

★**Wyo., Laramie**—City, J. T. Banner, city engr., Laramie, Jan. 29, 20 mi. water supply line, 108,137 ft. 20 and 36 in. steel and 1,180 ft. 20 in. c.i. pipe, necessary appurtenances. from Allred & Enix Constr. Co., Pampa, Tex. **$692,536.** Est. $736,650. CD 1/15—ENR 1/17.

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

CONTRACTS AWARDED

Ill., Harrisburg—City, City Hall, exten. watermains, to E. J. Fischer Co., 4134 Westminster St., St. Louis, Mo. Est. **$90,000.** CD 11/20/44—ENR 11/30/44, under Postwar Projects.

Ia., Boone—City, R. A. Mulench, clk., elevated water reservoir to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines. **$102,945.** Bids 1/23. G. A. Nelson, city engr. CD 11/22/44—ENR 12/14/44, under Postwar Projects.

La., Pointe a la Hache—Police Jury Plaquemine Parish, founds. and 300,000 gal. elevated riveted steel water tank on 100 ft. tower, to McDonough Const. Co., 514 Verret St., Algiers, New Orleans, **$29,850.**

N. C., Gastonia—City, H. Rutter, city mgr., City Hall, WW pump. equip., to J. R. Purser Sales Engrg. Co., Inc., Independence Bldg., Charlotte. **$22,206.** Wm. M. Piatt, Durham, engr. Bids 1/23. CD 12/27—ENR 1/3.

O., Alliance—City, installing soft water plant, to E. R. Gariock & Assocs., Inc., 624 Ecton Ave., Akron. **$192,964.** Est. $200,000. Awarded 2/5.

Tex., Honey Springs—City, J. B. Richardson, mayor, City Hall, WW sys. imprvs., to W. G. Cullum & Co., Great National Life Bldg., Dallas, approx. **$96,000.** CD 2/6.

Utah, Logan—Logan City, c/o City Recorder, replacing 3,300 lin. ft. water supply line with new 24 in. steel welded pipe, to Young & Smith, Beason Bldg., Salt Lake City, **$24,287.** Bids 1/29. P. H. Hugie, Logan, engr. CD 8/2/44—ENR 8/24/44, under Postwar Projects.

Ont., Paisley—Village, E. D. Elwes, clk., WW sys., to Mohan Constr. Co., Ltd., 9 Pharmacy Ave., Toronto, about **$60,000.** CD 1/9—ENR 1/17.

SEWERS, WASTE DISPOSAL

BIDS ASKED

Bids Asked February 19

Conn., Stamford — City, Commissioner Finance, 12- to 36-in. extra heavy rein.-con. culvert pipe storm sewers, Henry, Pacific and Market Sts. Over $25,000. Plans deposit $25. Leon Tuttle, city engr. CD 2/1—ENR 2/21.

Bids Asked February 20

N. Y., New York—President Bronx Boro, Bronx County Bldg., 851 Grand Concourse, sewers in Williamsbridge Rd., Gliderslieve, Stephens and Bassett Aves., McDonald and Wyatt Sts., receiving basins Mickle, Westchester, Astor, Kingsland, Jerome and Cromwell Aves.

N. Y., Whitestone—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, Contr. 1, interceptor collector at sewage disposal plant. Plans deposit $10. CD 11/10/44—ENR 11/30/44, under Postwar Projects.

Tex., Fort Worth—S. H. Bothwell, city mgr., Council Chamber, 8- to 12-in. mains and c.i. pipe, 6 and 8 in. lateral lines and 3 creek crossings, sanitary line addns., Bellaire and Westcliff Addns. $60,000. W. O. Jones, dir. P. Wks.

Bids Asked February 21

Ind., Pendleton—Town Bd., J. H. Walker, secy., sewage treatment plant, brick, rein.-con., structural steel, c.i. wrought iron and wrought steel pipe, valves, fittings, floating cover, 2 raw sewage pumps, activated and primary sludge pumps, sump pump, gland water pump and tank, chlorinator, cutting and screening equip., clarifying and aeration equip., etc. $50,000. G. R. Kelsey, 417 N. Arsenal Ave., Indianapolis, consult. engr. CD 9/24—ENR 9/27.

Bids Asked February 25

Ala., Mountain Brook—City, C. B. Webb, clk., 300,000 lin. ft. 8-to-15-in. terra cotta sewer line extens. $221,995. J. W. Goodwin Engrg. Co., Martin Bldg., Birmingham, engr. CD 10/12—ENR 11/1.

Bids Asked February 27

Tex., Houston—M. H. Westerman, city secy., City Hall, Kirby Drive storm sewerage sys., North of University, Unit B; adv. ENR 2/14.

Bids Asked March 1

Man., Winnipeg—Chairman Committee on Health, mixed garbage and refuse destructor. About $150,000. Plans deposit $50. CD 10/24—ENR 11/1.

Bids Asked March 4

Minn., St. Louis Park—Village, J. Justad, clk., City Hall, 4,989 lin. ft. 9 in. sanitary sewers and 2,400 lin. ft. 6 in. house connections along Lynn, Natchez, Monterey and Ottawa Aves. between Minnetonka Blvd. and Minneapolis and St. Louis R. R. tracks. $30,000. J. C. Utton, village engr. Bids 2/4 rejected. CD 1/31.

Bids Asked March 5

Colo., Colorado Springs—Knob Hill Sanitation Dist., 815 Bonfog Ave., 25,000 ft. sewer line. $80,000. Carroll H. Coberly, 1441 Wilton St., Denver, engr.

Bids Asked March 19

N. Y., Babylon—Town Bd., J. E. Tooker, clk., Town House, refuse incinerator, Avenue A north of Grunthal Ave. Plans deposit $15. F. J. Biele, 184 Nassau Ave., Huntington, consult. engr., adv. 2/14. CD 2/5/46—ENR 5/4/44 under Postwar Projects.

Bids Asked

Tex., San Antonio—City, G. B. Mauermann, mayor, City Hall, sanitary sewer lines, S. Walter St. $30,000. T. Coghill, City Hall, engr.

Tex., Houston—Ayrshire Corp., 1811 Southgate Blvd., sanitary sewers, Ayrshire Addn. $25,000.

LOW BIDDERS

Ill., Chicago—City, Dpt. P. Wks., City Hall, Feb. 1, vitr. tile sewer, S. Kostner Ave., 120 ft. north of W. 77 Pl. to W. 79 St., from Louis Scully & Sons, 6127 N. Hiawatha St. **$31,826.**

Mass., Chicopee—City postponed indefinitely intercepting sewer along Chicopee River. T. F. Robinson, city engr. CD 8/16—ENR 9/6, under Postwar Projects.

Tex., Goose Creek—City, City Hall, rejected bids Jan. 21, sewage disposal plant, **$70,000;** sanitary sewerage sys. collection lines, **$80,000.** CD 1/8—ENR 1/10.